



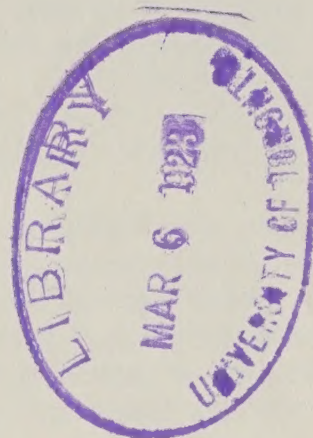
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MEILLEUR CHEESE

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AND

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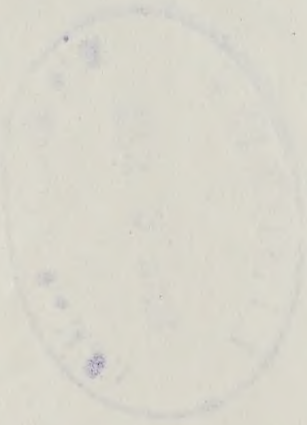
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THE EXPERIMENTAL FARMS BRANCH

E. S. ARCHIBALD, B.A., B.S.A., Director

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MEILLEUR CHEESE

Meilleur cheese has been originated by the dairyman at the Central Experimental Farm, after considerable experimental work. While the process of manufacture can not as yet be considered to be perfected, the results that have been obtained indicate a product of the first quality among the full flavoured cheeses.

When properly ripened, this cheese presents an attractive bright yellow colour and possesses a fine texture. It does not, however, possess the firmness of Cheddar and similar cheeses, being more open in texture and resembling to some extent the Emmenthaler or "Swiss-hole" cheese. The characteristic odour and flavour, while being more or less pronounced, are not sufficiently marked to be objectionable, differing materially in this respect from the great majority of cheeses representing this class.

Considering the possibilities for a liberal remuneration which the manufacture of this cheese seems to offer when conditions and circumstances are favorable, the manufacture of milk into this product should be profitable. It has been found that one hundred pounds of whole milk testing 4 per cent butter fat will give ten pounds of Meilleur cheese. The sale of this cheese at 35 cents per pound (which might be termed the minimum price to be expected) would realize \$3.50 per hundred pounds of milk.

In the manufacture of this cheese there are no factors more important than the conditions under which it is cured. If the curing room or cellar is not suitable, it is next to impossible to obtain a desirable product. The room temperature should be about 60° F. and the optimum humidity should be 90 per cent or even more. This is an important consideration in view of the fact that cheese cured in a relatively dry atmosphere develops a thick hard crust which generally checks or cracks. The result is that an abnormal bacterial growth develops in these openings, and such is capable of imparting undesirable and inferior flavours to the cheese. When cured under satisfactory conditions and given the required attention, this cheese develops a very thin and smooth crust which presents an unbroken surface to all outside influences, the cheese thus being permitted to develop its own particular flavour to the exclusion of all others.

Manufacturing and Equipment

1. *The Milk*.—To make a desirable quality of Meilleur cheese, it is very important to have fresh, clean milk. If the milk is to be kept over night, it should be cooled to a temperature of 60° F. or lower and held at that temperature until used. The milk should not be held more than twelve hours as it is very essential that it be perfectly sweet.

2. *The Cheese Vat*.—A wash boiler, large kettle, or tub may be used, but if cheese is to be made frequently or on a fairly large scale, a regular cheese vat is much more satisfactory. A cheese vat is so constructed that hot and cold water may be circulated around the milk for regulating the temperature.

The control of the temperature throughout the manufacturing process is essential to its successful making. A good thermometer therefore should be used.

3. *Heating the Milk and Adding Rennet.*—The milk is heated in the vat to a temperature of 90° F. at which it is held until after the curd has been cut. Before adding the rennet the acidity of the milk should be about .20 or .21 per cent. To attain this point of acidity, a starter is required when only the morning's milk is used. When both morning's and evening's milk is used, no starter is needed. One ounce of good buttermilk or sour milk of good flavour, per 100 pounds of milk, would make an excellent starter.

Rennet extract, which is used to curdle the milk, may be obtained from any dairy supply house. Rennet should be added at the rate of one-half of an ounce for each one hundred pounds of milk or enough to curdle the milk in from thirty to thirty-five minutes, according to the strength of the rennet used. The rennet should first be mixed with 8 ounces of lukewarm water and then stirred into the milk very thoroughly for five minutes. Then let the milk stand undisturbed until the curd is ready to cut which should take about thirty to thirty-five minutes after the addition of the rennet. The vat should be covered to keep a more uniform temperature and especially to prevent the surface of the milk from cooling.

4. *Cutting the Curd.*—One method of determining the proper stage for cutting is to insert the fore finger in the curd at an angle of 45° and about half an inch under the surface. If, when the finger is raised, the curd splits smoothly without leaving particles on the finger, it is ready to cut. The curd should be first cut lengthwise of the vat with a horizontal curd knife, then cut crosswise with a vertical knife, and finally lengthwise with the vertical knife, thus leaving the curd in small cubes.

If curd knives are not available, the curd may be cut with a large butcher knife, cutting both lengthwise and crosswise of the vat, and then, after carefully giving the curd a quarter turn so that one side is now on top, cutting lengthwise again. When the cutting is completed, the pieces of curd should form a cube about three-eighths of an inch in diameter.

5. *Heating the Curd and Removing the Whey.*—Heat the curd slowly to 115° F., taking about ten minutes to raise the temperature to that point. The curd should be stirred gently while heating, in order to prevent the pieces from sticking together and forming large lumps.

The whey is then immediately removed.

6. *Moulds and Moulding.*—Very suitable moulds can be made by any good tinsmith. They should be made of strong, heavy tin. Those used at the Experimental Farm are tin cylinders or hoops of two sizes. The small ones are $2\frac{3}{4}$ inches high by $5\frac{3}{4}$ inches in diameter, making a cheese $1\frac{1}{2}$ inches high by $5\frac{3}{4}$ inches, and varying in weight from one pound to 18 ounces. The larger size measures $3\frac{1}{2}$ inches high by 8 inches in diameter. These hold a cheese that weighs about 3 pounds.

Before putting in the curd the hoop is lined with a heavy cotton cloth.

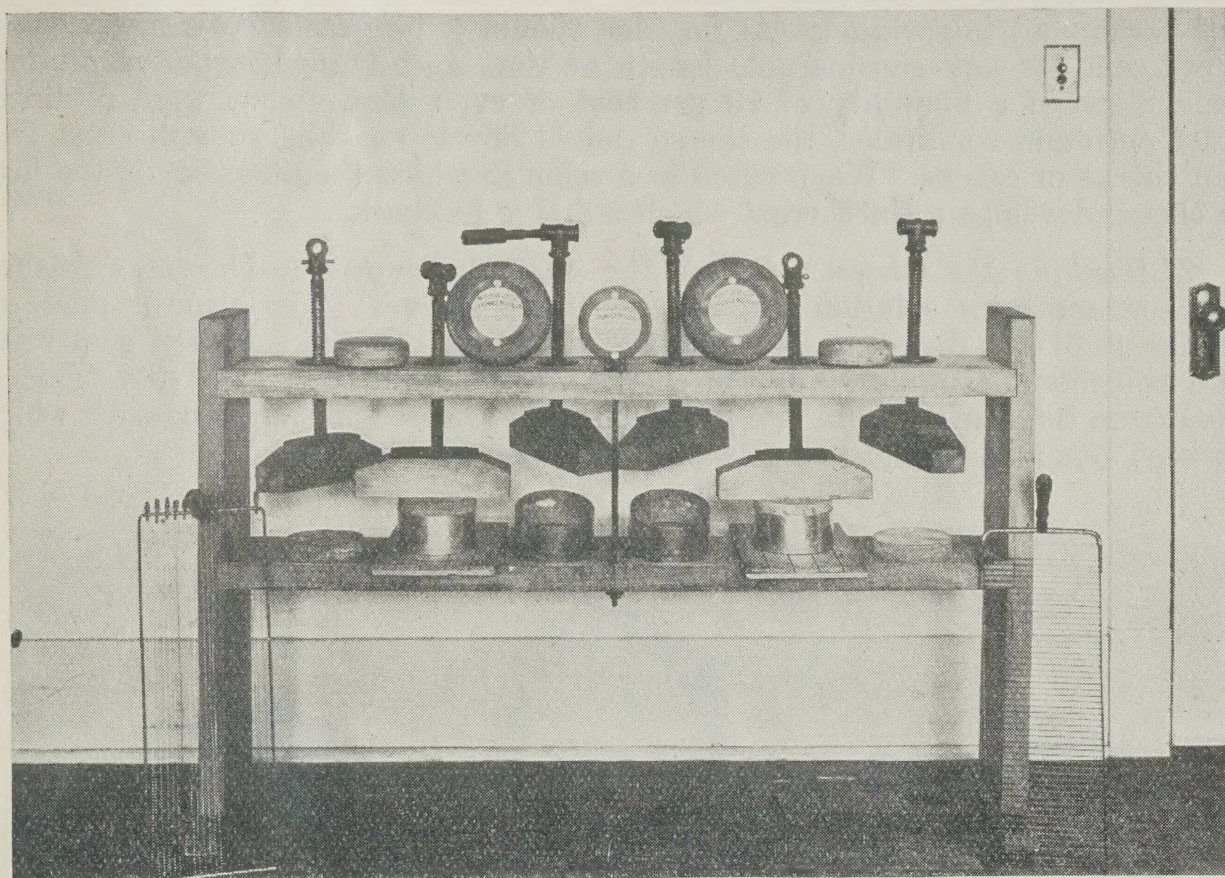
A wooden top is made to fit inside the hoop to press on the cheese. A grooved board or a board perforated with small holes may be used as a bottom. (In order to let the whey off it is necessary to have openings in the bottom of the moulds.)

These moulds are filled with the curd and then put in the press. After five minutes of gentle pressing they should be taken out and dressed.

The press that is used at the Farm for the manufacture of this cheese is a home-made device, an illustration of which is shown. One of the main features to keep in mind when constructing this press, the frame of which is constructed of wood, is to make certain that the material used is of sufficient strength and rigidity to withstand any pressure to which it may be subjected when operated at full capacity. The pressure is applied to the cheese by means

of a device similar to and operated in the same manner as an ordinary carpenter's bench vise, each unit being operated separately and independently of all others. This press can be relied upon to turn out cheese uniform in size, shape and weight.

A less satisfactory and more cumbersome device for pressing cheese on a small scale when one cheese, or perhaps two or three, are pressed at one time, can be improvised by utilization of the lever principle, and this has the



A home-made cheese press used in the manufacture of Meilleur cheese.
Note also the moulds, blocks and drain board.

advantage of involving little or no expense. By firmly attaching one end of the lever and weighting the other end the desired degree of pressure may be obtained by increasing or decreasing the distance that the cheese is placed from the weighted end of the lever. When manufacturing cheese on a commercial scale this last-named method would not be advisable because of the greater difficulty of obtaining cheese of uniform size and weight, and also because of the cumbersome and unwieldy nature of the apparatus employed.

7. Dressing the Cheese.—In order to prevent the cheese from sticking to the cotton cloth, it should not be pressed too long before dressing. Dressing is done in the following manner. The cheese is taken out of the moulds and the cloths removed. It is then re-wrapped first in a very damp parchment paper and next in the same cotton cloths and put back into the moulds.

The parchment paper is used to prevent the cheese from sticking to the cotton cloth. If this paper were not used the cotton would cling to the cheese the same as in the case of cheddar cheese.

The cheese is then pressed for 24 hours.

8. Salting.—After 24 hours, the cheese is removed from the moulds and salted. The salting process requires two days. Cover the cheese with about an eighth of an inch of salt and after one day reverse and apply a similar amount to the opposite side and allow to stand for another 24 hours.

The cheese is then removed to the curing room.

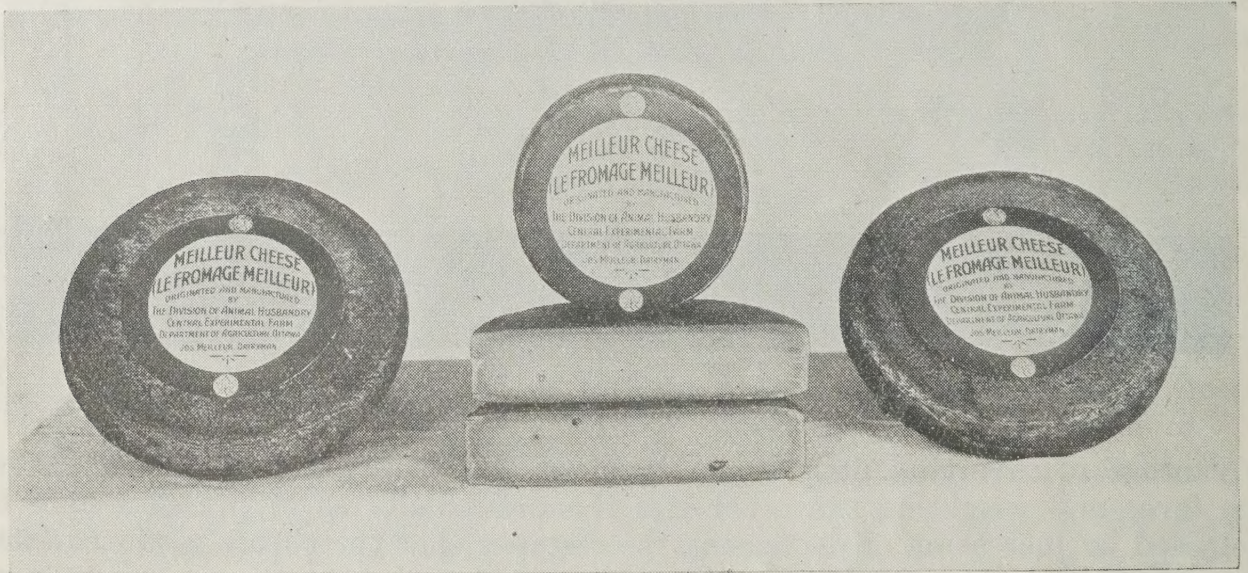
CURING THE CHEESE

Curing is the most important part in the making of Meilleur cheese.

1. *The Curing Room.*—The curing room should be clean, cool and humid. The most suitable temperature seems to be about 60° F. When permitted to rise much above 60° F. great difficulty will be experienced in retaining sufficient atmospheric moisture for the proper curing of the cheese.

The retention of sufficient humidity in the atmosphere of the curing room is of paramount importance. At no time should it be permitted to drop below 85 per cent for any considerable length of time and a much superior product would result if a humidity of 90 per cent or even 95 per cent were retained. Under optimum conditions, the cheese should develop a thin, smooth crust free from checks or cracks. When cured in a room in which the humidity is too low, the cheese develops a thick crust which is liable to check.

2. *Washing the Cheese.*—Before the crust develops, the cheese is washed with a strong brine solution and kept on damp shelves. The brine is made of two ounces of salt dissolved in two quarts of water. This is sufficient as a wash for a considerable quantity of the cheese. From time to time as the brine is taken from the container for use in washing the cheese the same quantity which has been removed should be replaced by a fresh supply.




Meilleur cheese, properly cured and ready for market.

This brine will, of course, develop quite a strong odour after a few days, but such has no detrimental effect on the cheese.

The brine wash is applied to the cheeses in order to keep these moist while the cheese is curing. The wash may be applied to the cheese on shelves with a sponge or soft cloth. The washing must be continued daily for about a month or until the bright yellow crust has formed. When such has developed satisfactorily the cheese may be removed to dry shelves. The washing must be continued, however, until the cheese is cured which generally requires $2\frac{1}{2}$ to 3 months from the time of manufacture. At this particular stage it is important to have the brine fresh and it should be made up daily or at most every other day, mixing the water and salt in the same proportions as before.

When cured in such a manner the cheese should present an attractive bright yellow colour, should have a thin, smooth crust and should not be hard, but, at the same time, possess a reasonable amount of firmness.



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